

### **AMENDMENTS TO THE CLAIMS**

Please cancel claims 1-8, and add new claims 9-35, as follows.

#### **Listing of Claims**

1-8. (CANCELED)

9. (NEW) A process for producing lactoperoxidase comprising: a step (1) for bringing one or more milk materials into contact with a cation exchanger having weakly acidic groups as ion exchange groups to thereby effect adsorption treatment; a step (2) for washing the cation exchanger after said adsorption treatment; a step (3) for bringing said washed cation exchanger into contact with a leaching solvent which elutes lactoperoxidase, to thereby obtain a leaching solution having lactoperoxidase eluted into said leaching solvent; a step (4) for concentrating said leaching solution through an ultrafiltration membrane to thereby effect precipitation in the concentrated leaching solution; and a step (5) for obtaining a lactoperoxidase solution by removing the precipitation from said concentrated leaching solution.

10. (NEW) A process for producing lactoperoxidase according to claim 9, wherein a lactoferrin adsorption capacity of said cation exchanger is 85 mg/10 ml or more.

11. (NEW) A process for producing lactoperoxidase according to claim 9, wherein said ion exchange groups are carboxymethyl groups.

12. (NEW) A process for producing lactoperoxidase according to claim 10, wherein said ion exchange groups are carboxymethyl groups.

13. (NEW) A process for producing lactoperoxidase according to claim 9, wherein, in said step (4), the concentration is performed so that a protein content in said concentrated leaching solution becomes 0.9 to 15%, to thereby effect precipitation.

14. (NEW) A process for producing lactoperoxidase according to claim 10, wherein, in said step (4), the concentration is performed so that a protein content in said concentrated leaching solution becomes 0.9 to 15%, to thereby effect precipitation.

15. (NEW) A process for producing lactoperoxidase according to claim 11, wherein, in said step (4), the concentration is performed so that a protein content in said concentrated leaching solution becomes 0.9 to 15%, to thereby effect precipitation.

16. (NEW) A process for producing lactoperoxidase according to claim 9, wherein an ionic strength of the leaching solvent used in said step (3) is 0.07 to 0.3.

17. (NEW) A process for producing lactoperoxidase according to claim 10, wherein an ionic strength of the leaching solvent used in said step (3) is 0.07 to 0.3.

18. (NEW) A process for producing lactoperoxidase according to claim 11, wherein an ionic strength of the leaching solvent used in said step (3) is 0.07 to 0.3.

19. (NEW) A process for producing lactoperoxidase according to claim 13, wherein an ionic strength of the leaching solvent used in said step (3) is 0.07 to 0.3.

20. (NEW) A process for producing lactoperoxidase according to claim 16, wherein the leaching solvent used in said step (3) is an aqueous solution containing at least one salt selected from a group consisting of sodium chloride, potassium chloride, calcium chloride, and magnesium chloride.

21. (NEW) A process for producing lactoperoxidase according to claim 17, wherein the leaching solvent used in said step (3) is an aqueous solution containing at least one salt selected from a group consisting of sodium chloride, potassium chloride, calcium chloride, and magnesium chloride.

22. (NEW) A process for producing lactoperoxidase according to claim 18, wherein the leaching solvent used in said step (3) is an aqueous solution containing at least one salt selected from a group consisting of sodium chloride, potassium chloride, calcium chloride, and magnesium chloride.

23. (NEW) A process for producing lactoperoxidase according to claim 19, wherein the leaching solvent used in said step (3) is an aqueous solution containing at least one salt selected from a group consisting of sodium chloride, potassium chloride, calcium chloride, and magnesium chloride.

24. (NEW) A process for producing lactoperoxidase according to claim 9, further comprising a step for obtaining solid lactoperoxidase by removing the solvent of the lactoperoxidase solution obtained in said step (5).

25. (NEW) A process for producing lactoperoxidase according to claim 10, further comprising a step for obtaining solid lactoperoxidase by removing the solvent of the lactoperoxidase solution obtained in said step (5).

26. (NEW) A process for producing lactoperoxidase according to claim 11, further comprising a step for obtaining solid lactoperoxidase by removing the solvent of the lactoperoxidase solution obtained in said step (5).

27. (NEW) A process for producing lactoperoxidase according to claim 13, further comprising a step for obtaining solid lactoperoxidase by removing the solvent of the lactoperoxidase solution obtained in said step (5).

28. (NEW) A process for producing lactoperoxidase according to claim 16, further comprising a step for obtaining solid lactoperoxidase by removing the solvent of the lactoperoxidase solution obtained in said step (5).

29. (NEW) A process for producing lactoperoxidase according to claim 20, further comprising a step for obtaining solid lactoperoxidase by removing the solvent of the lactoperoxidase solution obtained in said step (5).

30. (NEW) A process for producing lactoperoxidase according to claim 24, wherein a purity of the solid lactoperoxidase is 80% or more.

31. (NEW) A process for producing lactoperoxidase according to claim 25, wherein a purity of the solid lactoperoxidase is 80% or more.

32. (NEW) A process for producing lactoperoxidase according to claim 26, wherein a purity of the solid lactoperoxidase is 80% or more.

33. (NEW) A process for producing lactoperoxidase according to claim 27, wherein a purity of the solid lactoperoxidase is 80% or more.

34. (NEW) A process for producing lactoperoxidase according to claim 28, wherein a purity of the solid lactoperoxidase is 80% or more.

35. (NEW) A process for producing lactoperoxidase according to claim 29, wherein a purity of the solid lactoperoxidase is 80% or more.